CLAIMS

1. A sensor assembly (1) for measuring movements of a fluid pump (10), the fluid pump (10) being driven by an electric motor (30) and the electric motor (30) being connectable to a feed voltage (V),

the sensor assembly (1) comprising an accelerometer (2) and being characterized in that the accelerometer (2) is electrically associated to a bias circuit (51), the accelerometer (2) configuring first and second acceleration transducers (4a, 4b), and in that it comprises a feed terminal (34) and a signal terminal (33),

the feed terminal (34) being electrically connectable to the feed voltage (V) of the motor (30), and

the signal terminal (33) being electrically connectable to an external measuring circuit (55).

2. A sensor assembly according to claim 1, characterized by comprising a weight (2a) connected to a first insulating element (20') and a second insulating element (20"), the first and second acceleration transducers (4a, 4b), and signal terminal (33) and feed terminal (34) projecting from the first and second acceleration transducers (4a, 4b).

3. A sensor assembly according to claim 2, characterized by comprising at least one support means (3) for the accelerometer (2), the support means (3) comprising a base portion (3a), the base portion (3a) being fixedly associable to the fluid pump (10).

4. A sensor assembly according to claim 3, characterized in that the first insulating element (20') is positioned on the surface (3a) of the support (3).

5. A sensor assembly according to claim 4, characterized ion that the first and the second acceleration transducers (4a, 4b), the second insulating element (20") and the weight (2a) are positioned overlapping the first insulating element (20').

6. A sensor assembly according to claim 5, characterized by comprising a bias circuit (51) associated to the accelerometer (2), the bias circuit (51) being mounted in an internal portion (50') of the housing (50) and

connected to the measuring circuit (55).

7. A sensor assembly according to claim 6, characterized in that the bias circuit (51) comprises a transistor (51a) operatively associated to the signal terminal (33) and to the feed terminal (34).

8. A sensor assembly according to claim 7, characterized in that the external measuring circuit (55) comprises a microprocessor (52), the microprocessor (52) measuring the signal of the sensor assembly (1) by means of the signal terminal (33).

9. A fluid pump (10) comprising:

- a cylinder (58),

- a piston (57), and

- a housing (50) comprising a hermetic terminal (60) and hermetically enclosing the cylinder (58) and the piston (57), forming a hermetic assembly (100),

the piston (57) being driven by an electric motor (30), the electric motor (30) being connected to an electric voltage (V) by means of a pair of voltage terminals (61, 62) associated to the hermetic terminal (60),

the fluid pump (10) being characterized by comprising a sensor assembly (1) associated to the cylinder (58), the sensor assembly (1) comprising a feed terminal (34) and a signal terminal (33), the feed terminal (34) being connected to one of the voltage terminals (61, 62) and the signal terminal (33) being electrically connectable to an external measuring circuit (55).

10. A fluid pump according to claim 9, characterized in that the sensor assembly (1) comprises an accelerometer (2) associated to a support means (3), the support means (3) being fixed to the hermetic assembly (100).

11. A fluid pump according to claim 10, characterized in that the sensor assembly (1) comprises a base portion (3a), the base portion (3a) being fixedly associable to the hermetic assembly (100).

12. A fluid pump according to claim 11, characterized in that the sensor assembly (1) comprises a weight (2a), connected to a fist insulating element (20') and to a second insulating element (20"), first and second ac-

celeration transducers (4a, 4b), a feed terminal (34) and a signal terminal (33) projecting from the first and second acceleration transducers (4a, 4b).

13. A fluid pump according to claim 12, characterized ion that the first insulating element (20') is positioned on the surface (3a) of the support of the sensor assembly (1).

14. A fluid pump according to claim 13, characterized in that the first and second acceleration transducers (4a, 4b), the second insulating element (20") and the weight (2a) are positioned overlapping the first insulating element (20').

15. A fluid pump according to claim 14, characterized in that the sensor assembly (1) comprises a bias circuit (51) associated to the accelerometer (2), the bias circuit (51) being mounted in an internal portion (50') of the housing (50).

16. A fluid pump according to claim 15, characterized in that the bias circuit (51) comprises a transistor (51a) operatively associated to the signal terminal (33) and to the feed terminal (34).

17. A fluid pump according to claim 16, characterized in that the external measuring circuit (55) comprises a microprocessor (52), the microprocessor (52) measuring the signal of the sensor assembly (1) by means of the signal terminal (33).

18. A fluid pump according to claim 17, characterized in that the housing (50) comprises a hermetic terminal (60) for passage of the feed terminal (34) and signal terminal (33).

19. A cooler characterized by comprising a sensor assembly (1), as defined in claims 1 to 9.